Evaluation of Position Description

Labor Category/FLSA: Nonexempt

_____**Current Position Description**
__X__**Proposed Position Description**

Date Prepared: __06/28/03__

Approving Official: **Name:** Sheryl A. Wheeler **Signature:** S. A. Wheeler
Title: HR Specialist

Position Title/Series/Grade: Electronic Industrial Controls Mechanic, WG-2606-10

ORGANIZATION: Division of Property Management

REFERENCES: OPM JGS Production Machinery Mechanic, WG-5350, Nov 80 and OPM JGS Electronic Industrial Controls Mechanic, WG-2606, April 1987.

DETERMINATION OF SERIES: The purpose of the position is to installs, repairs, overhauls, fabricates, tunes, aligns, modifies, calibrates and tests systems and equipment; electronic measurement equipment; electronic or electrical computer systems and equipment; electronic industrial control equipment, electronic integrated systems; or medical equipment. The electronic work is performed on Preferred Rimcor and Allen Bradley for boiler controls, and Andover 256 and Bentley Nevada for chiller controls. The electronic portion is the most important for recruitment, selection, placement, and reduction in force purposes. The electronic portion. is not covered by reference WG-5350 which refers it to the Electronic Industrial Control Mechanic Series, WG-2606. The job is therefore placed in this series and given an appropriate title resembling as closely as possible the title in the handbook. Since the incumbent performs a broad range of functions it is titled Electronic Industrial Controls Mechanic.

DETERMINATION OF GRADE: Maintenance of electronic equipment requires skill which exceeds criteria for this factor at the WG-9 level. Equipment serviced is complex because it involves systems dependency or integration of units constantly changing and has unique characteristics. Systems include miniaturization and amplification, etc. Circuit tracing continually requires use of schematics, blueprints and drawings that present problems in interpretation, analysis or use. Testing equipment and techniques are more extensive than as presented at the WG-9 level. As maintenance electric/electronic repairman, incumbent works with considerable independence in taking actions to expedite repair and reduce equipment "down time." Skill and knowledge and responsibility factors for maintenance of electronic components and systems exceed the W-9 level. Therefore, in application of grading criteria for Electronic Industrial controls Mechanic, WG-2606, job is graded at WG-10 based on the performance of journeyman level.

CONCLUSION: In accordance with the classification practices and titling prescribed in the WG-2606 Series standard. The proper classification for subject job is therefore determined to be Electronic Industrial Controls Mechanic, WG-2606-10.

ELECTRONIC INDUSTRIAL CONTROLS MECHANIC, WG-2606-10

Introduction: The Division of Property Management (DPM) serves all of the NIH Community by providing support for renovations, new construction and maintenance of existing facilities, utilities and grounds. The Division provides professional leadership for the engineering programs of the Department of Health and Human Services, National Institutes of Health (NIH). The scope of DPM operations is such that the effectiveness with which they are carried out has a major and direct effect on the worldwide biomedical research programs of the NIH. In addition to the main facilities at the Bethesda Campus and in Poolesville, MD, NIH has facilities at Research Triangle Park, North Carolina, Rocky Mountain Laboratory in Montana and the Gerontology Research Center in Baltimore, MD.

This position is organizationally located within the DPM in one or more of the subordinate organizational components responsible for the provision of operations and maintenance of NIH facilities. The position is multi-disciplinary and requires the incumbent to be multi-skilled and flexible in the types and complexity of work performed. The position requires that the incumbent be able to work independently and take the initiative to complete the work assigned with a minimum of direct supervision regardless of the nature of the work thus requiring that specific trade skills be shared between staff members.

Primary Purpose

Installs, repairs, overhauls, fabricates, tunes, aligns, modifies, calibrates and tests systems and equipment; electronic measurement equipment; electronic or electrical computer systems and equipment; electronic industrial control equipment, electronic integrated systems; or medical equipment.

Maintains, repairs, calibrates, and certifies electronic test, measurement, and reference equipment used for precise measurement of a variety of electrical values, quantities, and relationships.

Works on equipment, making judgments and decisions regarding completion of assignments.

Plans and Carries Out Work Assignments

Incumbent works at journeyman level. Plans and completes work assignments. Exercises judgment in determining methods and techniques required to solve maintenance and repair problems. Uses knowledge in the application of shop and trade techniques to solve problems related to such factors as the testing environment, interference from other frequency generating equipment, location and density of circuitry, and other troubleshooting difficulties.

Services Electronic Precision Measurement Equipment

Tests, troubleshoots, repairs, overhauls, modifies, and calibrates a variety of electronic precision measurement equipment, such as Preferred Rimcor and Allen Bradley for the boiler controls, and Andover 256 and Bentley Nevada for chiller controls, that are usually combined and interrelated with other electronic equipment, to operate as a complete information gathering unit. Works on conventional precision measurement equipment, instruments, and instrumentation systems such as in-situ oxygen analyzers, vibration monitors and combustion gas analyzers.

Servicing of such equipment requires special servicing procedures. Performs modifications to standard and conventional equipment to improve the range or provide new capabilities to identify parameters of interest in test applications. Services equipment that is designed or modified to measure elements such as infrared radiation, temperature, gas, vacuum, and other parameters in laboratory test applications. Adds new circuits, controls, wiring, or units with critical tolerances or operating characteristics.

Installs, maintains, troubleshoots, repairs, and calibrates electronic controls and indicating and recording systems used on industrial machinery in high pressure boilers, large centrifugal refrigeration units, air compressor units and/or in energy monitoring and control systems.

Works on electronic control systems, making judgments and decisions regarding completion of assignments.

Plans and Carries Out Work Assignments

Plans and carries out work assignments. Exercises judgment and independence in determining methods and techniques required solving maintenance and repair problems. Uses ingenuity in the application of shop and trade practices to solve operating and repair problems.

Services Complex Electronic Sensing and Control Systems

Installs, modifies, overhauls, maintains, troubleshoots, and repairs electronics equipment. Works on new or prototype systems that are characterized by application of advanced electronic theory and technological changes in the systems. Serves as "lead worker" on teams to install and put into operation major electronic control systems which are new to the activity or which are major modifications of existing systems, where there is little knowledge of the systems problem areas and expertise in its repair. Uses knowledge to solve complex installation and repair problems by constructing interface devices and modifications to the equipment that improve operations of the new system.

Performs Operational Tests

Performs operational tests. Analyzes input and output of a variety of microprocessors, integrated and discrete solid-state circuits, and transistor applications to recognize indications of improper operation and differentiate them from temporary anomalies introduced by the testing itself. Troubleshoots and repairs systems during operational tests and conducts procedures to cope with defects. Develops changes to schematics, drawings, and maintenance procedures for use by lower-grade employees. Coordinates efforts with technical and professional personnel on changes to equipment and operating specifications.

Skill and Knowledge

Knowledge of operation, capabilities, and limitations of electronic control equipment and systems, as well as skill in applying this knowledge to understand systems in order to conduct alignment, repair, and operating procedures which will be efficient, complete, and compatible with available resources. Uses skills in the application of shop and trade practices to solve operating and repair problems. Knowledge of electronic theory and design and ability to devise solutions for operating or repair problems.

Skill in interpreting electronic, electrical, and mechanical drawings, specifications, and schematics of complete systems such as automated boiler burner management system with remote units and functions which must be coordinated or similar involved subunits which create and use interlocking signals. Skill in troubleshooting electronic systems characterized by typical circuit arrangements and theories.

Responsibility

Exercises judgment and in determining the methods and techniques required to solve installation and repair problems. Judges the need for modification of test devices or work sequences, and techniques. Develops and submits for approval changes to schematics, drawings, and maintenance procedures for use by lower grade employees.

Keeps abreast of technological changes in the occupation in order to understand new electronics theories and applications and provides technical guidance and assistance to lower grade employees.

Coordinates efforts with technical and professional personnel on matters affecting installation or operating specifications and changes to equipment. The supervisor assigns work orally and through written instructions which outline the purpose of the work and possible approaches. Work is reviewed by occasional spot checks, review of documentation developed, and successful check out of the equipment.

Physical Efforts

Work assignments require moderate physical effort. Work requires frequently lifting, carrying or otherwise handling items weighing up to 18 kilograms (40 pounds). Occasionally required to handle items greater than 18 kilograms. Assistance is usually available with heavy items. Works in a sitting position for extended periods. Frequent standing, walking, bending, crouching, reaching, and stooping are required. Occasionally, climbing and work in high places may be required.

Working Conditions

Work is usually performed inside in well-lighted, heated, and ventilated areas. When equipment is fixed in place, it is sometimes necessary to work in warehouse or industrial areas exposed to loud noises, heat or cold, fumes, etc. Employees are subject to injuries, such as electric shock, cuts and bruises, as well as burns caused by electrical energy or soldering irons.